209.1 - X-Ray Diffraction (powder and solid forms)

SRMs 656, 676a, 674b, 1878b and 1879a consist of high phase purity materials for use in the quantitative analysis of samples by the internal standard method. SRM 656 consists of 2 silicon nitride powders, one high in a, the other high in b. SRMs 640e, 660c, 675, and 1976b consist of materials with select crystallographic and microstructure properties used in the evaluation of diffraction equipment for the following variables; 1) d-spacing or line position, 2) line or instrument intensity, and 3) instrumental or sample contributions to the shape of reflection profiles. SRM 1976b, a sintered alumina plate, is also certified with respect to lattice parameters as well as 13 relative intensity values from 22° to 155° 2q (Cu Ka). SRM 1990 is certified for lattice parameter. SRM 1994 is certified for miss orientation of the crystal axis relative to the surface normal.

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

SRM	640e	656	660c	674b	675	676a	1878b	1879a	1976b	1990	1994	1995	2000
Description	**Line Position and Line Shape Standard for Powder Diffraction (Silicon Powder)**	**Silicon Nitride for Quantitative Analysis by Powder Diffraction**	**Line Position and Line Shape Standard for Powder Diffraction (Lanthanum Hexaboride Powder)**	**X-Ray Powder Diffraction Intensity Set (Quantitative Powder Diffraction Standard)**	**Line Position, Mica (XRD)**	**Alumina Powder (Quantitative Analysis Powder Diffraction Standard)**	**Respirable Alpha Quartz (Quantitative X-Ray Powder Diffraction Standard)**	**Respirable Cristobalite**	**Instrument Response Standard for X-Ray Powder Diffraction**	**Single Crystal Diffractometer Alignment Standard - Ruby Sphere**	**Standard Silicon Single Crystal Wafer for Crystalline Orientation**	**Standard Sapphire Single Crystal Wafer for Crystalline Orientation**	**Calibration Standard for High-Resolution X-Ray Diffraction**
Unit Size	**(7.5 g)**	**(2 x 10 g)**	**(6 g)**	**(10.00 g (powder))**	**(7.5 g)**	**(20 g)**	**(5 g)**	**(5 g)**	**(1 disc)**	**(3 spheres)**	**(100-mm wafer)**	**(50-mm wafer)**	**(1 block)**
XRD Application or SAXS	Line Position Line Shape	Quantitative Analysis	Line Position Line Shape	Quantitative Analysis	Line Position - Low 2θ	Quantitative Analysis	Quantitative Analysis	Quantitative Analysis		Quantitative Analysis	Crystalline Orientation	Crystalline Orientation	Line Position

- Certified values are normal font
- Reference values are italicized
- Values in parentheses are for information only

209.1 - X-Ray Diffraction (powder and solid forms)

SRMs 656, 676a, 674b, 1878b and 1879a consist of high phase purity materials for use in the quantitative analysis of samples by the internal standard method. SRM 656 consists of 2 silicon nitride powders, one high in a, the other high in b. SRMs 640e, 660c, 675, and 1976b consist of materials with select crystallographic and microstructure properties used in the evaluation of diffraction equipment for the following variables; 1) d-spacing or line position, 2) line or instrument intensity, and 3) instrumental or sample contributions to the shape of reflection profiles. SRM 1976b, a sintered alumina plate, is also certified with respect to lattice parameters as well as 13 relative intensity values from 22° to 155° 2q (Cu Ka). SRM 1990 is certified for lattice parameter. SRM 1994 is certified for miss orientation of the crystal axis relative to the surface normal.

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2012	3600
Calibration Standard for High-Resolution X-Ray Diffraction (200 mm Wafer)	**Absolute Intensity Calibration Standard for Small-Angle X-ray Scattering**
(wafer)	**(coupon)**
Line Position	Small-angle scattering intensity

- Certified values are normal font
- Reference values are italicized
- Values in parentheses are for information only